United States Department of the Interior

GEOLOGICAL SURVEY

Confidential Claim Retracted

Authorized by: SC

Date: 6/24/13

MAY 04 1981

Memorandum

To: Deputy Conservation Manager-Mining, SCR

From: Mining Engineer, Albuquerque District, SCR

Subject: Environment Assessment of the NJ-45 Mining and Reclamation Plan

Enclosed is a copy of the approval letter and a copy of the Environmental Assessment for the NJ-45 Mine.

George R. Tetreault, Jr.

Enclosure

NOTICE OF FINDING OF NO SIGNIFICANT IMPACT

April 30, 1981, the Deputy Conservation Manager-Mining, South Central Region determined that Anaconda Copper Company's mining and reclamation plan for the NJ-45 Mine would not significantly affect the quality of the human environment in the sense of NEPA, Section 102(2)(c). The NJ-45 Mine will involve underground uranium mining within the Pueblo of Laguna Uranium Lease 1, covering Sections 26 and 35, Township 11 North, Range 5 West, NMPM, Valencia County, New Mexico.

The Albuquerque District Mining office, South Central Region, prepared an environmental assessment of the NJ-45 mining and reclamation plan. This assessment and the mining plan may be reviewed by the general public in Room 33 of the Rosenwald Building, 320 Central Avenue, SW, Albuquerque, New Mexico, 87103 between 7:30 am and 4:00 pm, Monday through Friday. The telephone number is (505) 766-3830 (FTS 8-474-3830).

cc:
DCM, Mining

United States Department of the Interior
GEOLOGICAL SURVEY
P.O. Box 69
Albuquerque, New Mexico 87103

APR 30 1981

Mr. Robert D. Lynn
General Manager
Anaconda Copper Company
New Mexico Operations
P. O. Box 638
Grants, New Mexico 87020

Dear Mr. Lynn:

Your August 14, 1980, proposed mining and reclamation plan for the NJ-45 Mine, Pueblo of Laguna Uranium Lease 1, has been reviewed. The Pueblo of Laguna and Bureau of Indian Affairs recommend approval of the plan.

Accordingly, the mining and reclamation plan for the NJ-45 Mine is hereby approved subject to the following condition.

> Abandonment and reclamation procedures for the NJ-45 Mine will be determined in the approval of the September 11, 1980, Reclamation Plan for the Jackpile-Paguate Uranium Mine.

If you have any questions about this approval, please contact this office.

Sincerely yours,

James W. Sutherland

for Edward T. Sandell, Jr.
Deputy Conservation Manager-Mining

ENVIRONMENTAL ASSESSMENT

MINING AND RECLAMATION PLAN
for the
NJ-45 Mine
ANACONDA COPPER COMPANY
PUEBLO OF LAGUNA URANIUM LEASE 1
Sections 26 and 35, Township 11 North, Range 5 West, NMPM
Valencia County, New Mexico

United States Geological Survey
Conservation Division
Albuquerque District Mining Office
South Central Region
P. O. Box 69
Albuquerque, New Mexico 87103

April 22, 1981
John M. Andrews, Jr.
Environmental Scientist

INTRODUCTION

This environmental assessment employs a procedure called "adoption" which is defined in the regulations of the Council on Environmental Quality (CEQ) (see 40 CFR 1506.3). Briefly, this procedure allows an environmental assessment previously prepared for a proposed action to be used as the principal decision making and NEPA compliance document for a newly proposed action when the two actions are similar. Although the CEQ "adoption" regulations relate specifically to environmental impact statements, these regulations also state that "any environmental document in compliance with NEPA may be combined with any other agency document to reduce duplication and paperwork" (see 40 CFR 1506.4). The purpose of employing this procedure is to comply with the CEQ's mandate to "reduce excessive paperwork" (40 CFR 1500.4).

This environmental assessment serves as an adoption document and will discuss: the justification for adoption; the differences between the action covered by the original environmental assessment and the proposed action; the site specific impacts of the proposed action; the clearances and concurrences needed for the proposed action; and the viable alternatives open to the decision makers. The decision makers are to use both the adopted environmental assessment and this document to make the NEPA related decisions.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

FIGURES

I. Adoption Justification

The proposed action is the approval of a small, short-term underground uranium mine, the NJ-45 Mine, that would be situated within the limits of the large Jackpile-Paguate Mine. The Jackpile-Paguate Mine is located on the Laguna Indian Reservation, and Anaconda Copper Company has produced uranium ore by both open-pit and underground methods from the Mine since 1952. Recent weakening of the uranium market has caused Anaconda to stop open-pit operations, and the NJ-45 Mine would allow recovery of ore reserves originally scheduled for open-pit mining.

The Jackpile-Paguate Mine is located within contiguous Pueblo of Laguna Uranium Leases 1,4 and 6. These leases contain approximately 7500 acres in Townships 10 and 11 North, Range 5 West, NMPM, Valencia County, New Mexico. The Mine consists of 1000 acres of open-pits, 2000 acres of waste dumps and ore stockpiles, four abandoned underground mines, and one active underground mine. Another underground mine has been approved but not developed due to poor economic conditions. As previously mentioned, open-pit operations at the Mine have ceased, but limited underground mining is expected to continue for a short time. Reclamation of the land disturbed by the mining activities will be conducted upon completion of the EIS now being prepared by the Geological Survey.

One of the abandoned underground mines preceded NEPA, but the Geological Survey has prepared EA's on the other five underground mines. Of these five mines, three were virtually identical to the proposed NJ-45 Mine, and all five EA's resulted in determinations that the proposed actions did not constitute major Federal actions significantly affecting the quality of the human environment in the sense of NEPA. Upon proposal of the NJ-45 Mine, it was determined that preparation of another separate EA would be contrary to the CEQ's mandate to "reduce excessive paperwork." The Geological Survey therefore decided to adopt one of the previously prepared EA's.

The EA being adopted is the "Environmental Analysis, PW2-PW3 Mine Project - The Anaconda Company." This EA (dated April 29, 1977) was prepared by the Carlsbad Mining Office and reviewed by the Geological Survey's Area and Regional Offices. It contains approximately 50 pages plus appendices and thoroughly assesses all impacts of the PW2-PW3 Mine. The Area Mining Supervisor and Conservation Manager determined that approval of the PW2-PW3 Mine did not constitute a major Federal action significantly affecting the quality of the human environment in the sense of NEPA, and the mine plan was approved January 11, 1978.

The proposed NJ-45 and the PW2-PW3 Mines are determined to be substantially the same because they share the following characteristics:

1. Both are located within the same mine complex.
2. Both lie within the same lease, have the same lessor, lessee, and operator.
3. Both involve conventional room-and-pillar mining of uranium ore in the same host formation.
4. Both use adit entries from the bottoms of mined-out open-pits.
5. Both are of the same general magnitude in size and environmental impact.
6. Both mines have nearly identical existing environments.

The differences between the NJ-45 and PW2-PW3 are as follows:

1. The proposed NJ-45 Mine would use four adits whereas the PW2-PW3 operation used only one.
2. The NJ-45 Mine would use three ventilation shafts while the PW2-PW3 used breakthroughs in the open-pit highwall to provide ventilation.
3. Although the two mines are within the open-pit, they impact different portions of the surface.
4. The status of the overall mine complex is different now than when the PW2-PW3 Mine was approved.
5. New Federal regulations and Conservation Division Guidelines for EA preparation have been issued since the PW-2-PW3 Mine was approved.

Each of these differences will be discussed in this adoption document.

II. Description of the Proposed Action

The proposed action is the approval of a small underground mine, the NJ-45 Mine, within the Jackpile-Paguate Mine. The NJ-45 operation would enter the subsurface via four adits in the east highwall of the North Jackpile open-pit. The ore body would be mined by conventional room-and-pillar methods using diesel-powered trackless equipment.

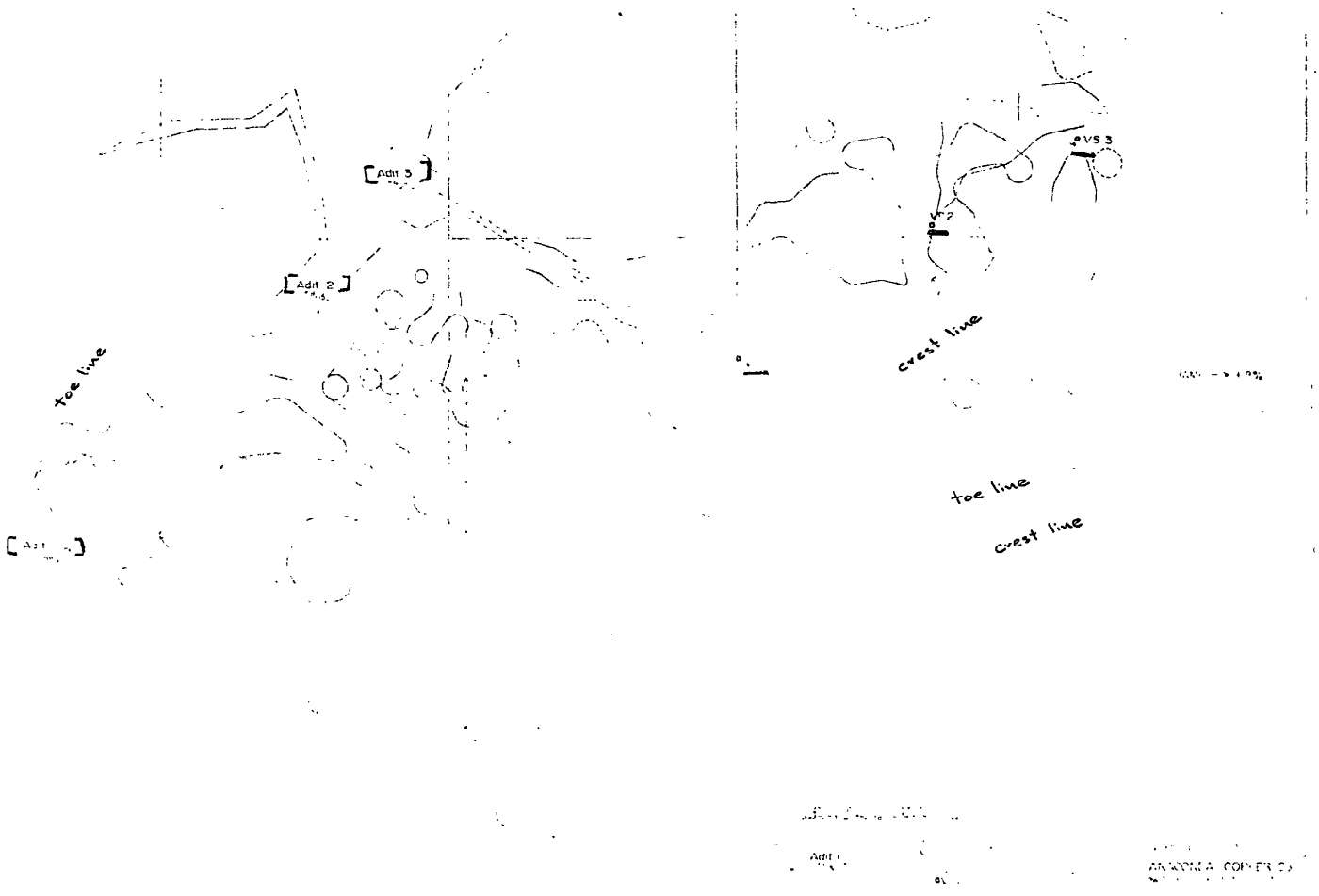
The NJ-45 ore reserve is estimated from surface drilling to weigh about 251,000 tons with an average grade of about 0.20% U_3O_8. Development work would require about 5,000 feet of access drifts and would generate about 31,000 tons of waste. Both ore and waste would be hauled to the surface by 5-ton Getman trucks. At the surface, the waste would be dumped in the bottom of the mined-out open-pit, and the ore would be hauled to existing stockpiles according to its grade.

Ventilation would be provided by three vent holes drilled on the open-pit benches (see Figure 1) and the four adit portals. If further ventilation was needed, a southwest crosscut from Adit 2 would be extended and breakthrough to the surface at the open-pit highwall.

Water inflow from the Jackpile Sandstone is expected to be about 50 gallons per minute (gpm), about the same as that into the PW2-PW3 Mine. Some of the water would be used for drilling in the Mine and the rest would be collected in a sump near the adit portals in the pit bottom. The water from the surface sump would be used for dust control on the NJ-45 access roads and the excess allowed to evaporate.

The NJ-45 Mine would use the present P-10 Mine office, change room and locker facilities, and surface maintenance and repair shops. New facilities needed at the NJ-45 site would be a temporary office, repair shop, facilities for handling ore and waste, and the water sump. Potable water would be trucked to the site. Electric power would be supplied by extending an existing power line in the open-pit.

The project is expected to last two years and employ a maximum of 112 people during the second year. Average annual ore production would approximate 125,000 tons.



CONFIDENTIAL

Figure 1

POL-EPA01-0006099s

Reclamation of the project would be accomplished during overall reclamation of the entire Jackpile-Paguate Mine. Anaconda submitted a comprehensive plan on this reclamation September 11, 1980, and in December, 1980, the Geological Survey decided to prepare an EIS on the reclamation plan. The EIS will consider reclamation of the entire mine area including the small underground mines within the open-pits. Reclamation of the NJ-45 Mine would follow the recommendations of the EIS.

III. Environmental Considerations of the Proposed Action

A. Discussion of Project Differences

1. Entry Differences

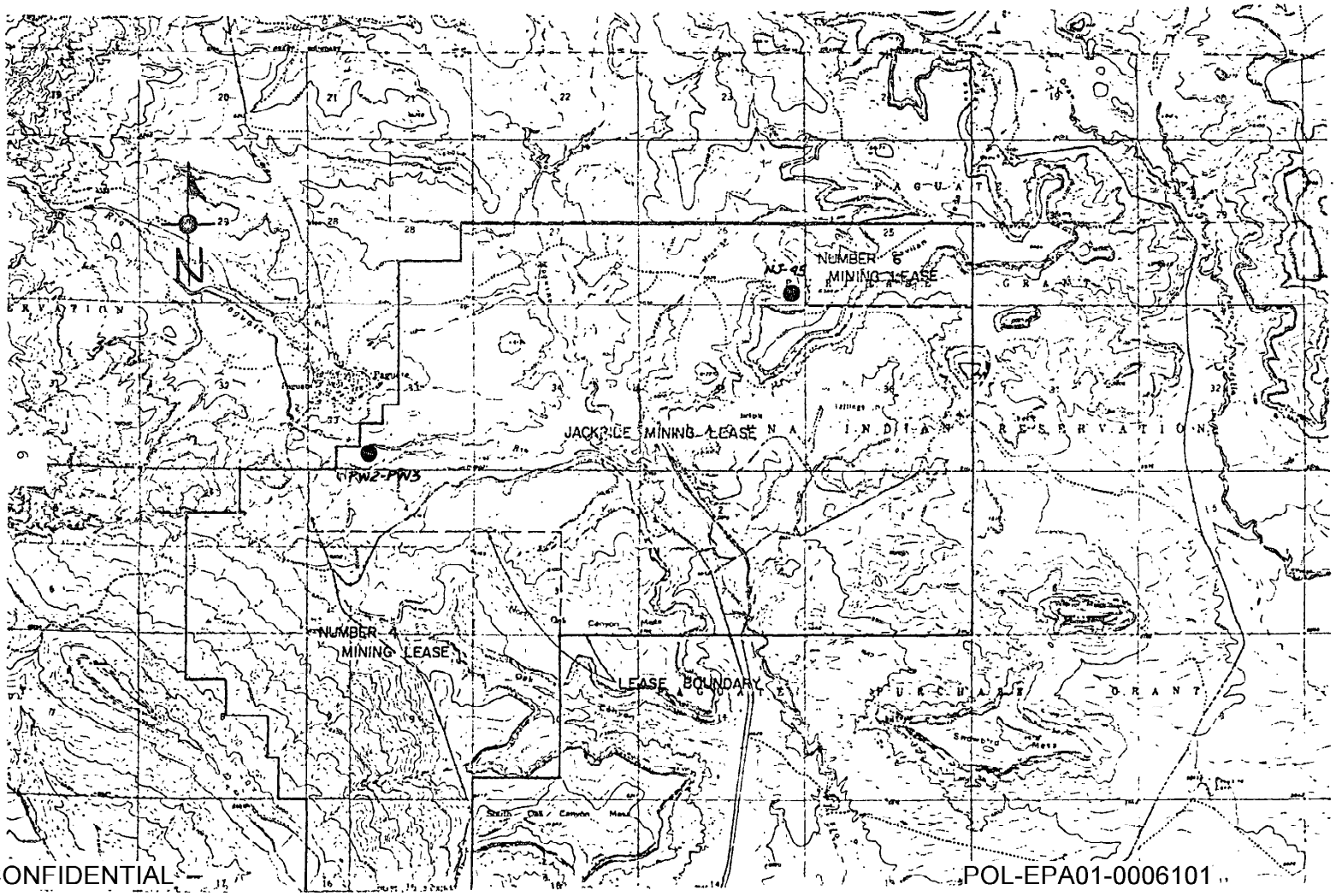
The NJ-45 Mine would use four adits whereas the PW2-PW3 used only one; however, since the adits are in the wall of the pit, they impact an area that has already been disturbed by open-pit mining. The adits themselves are a minor disturbance compared to open-pit mining or conventional shaft sinking. The additional adits would not cause any problems as far as the eventual reclamation of the mine area is concerned.

2. Ventilation Differences

The NJ-45 Mine would need three ventilation shafts while the PW2-PW3 used breakthroughs in the pit highwall. The difference here is one of location rather than severity of impact. The breakthroughs impacted the pit highwall while the ventilation shafts would affect the open-pit benches. In both cases, the areas had been previously disturbed by the open-pit operations so new impacts would be negligible.

3. Site Differences

The NJ-45 Mine would impact a different part of the mine area than the PW2-PW3 (see Figure 2). However, archeological clearance has been granted for the whole operation (see appendix A). It is not likely that the NJ-45 Mine would affect any new and important archeologic sites since the area involved has already been disturbed by open-pit mining.


NUMBER 6
MINING LEASE
JACKPILE MINING LEASE
NUMBER 4
MINING LEASE
LEASE BOUNDARY
PRW2-PW3
N

Surface subsidence was a concern with the PW2-PW3 Mine because the underground workings came within 50 feet of State Highway 279. As a stipulation to approval, Anaconda was required to place a subsidence monitoring grid over the portion of the Highway closest to the mine workings. Analysis of the monitoring indicates that the PW2-PW3 mining had no effect on the Highway.

Because of the minimal size of the underground excavations, subsidence is not expected to be a problem at the NJ-45 Mine. The NJ-45 Mine would be far removed from Highway 279 and other permanent structures and any surface subsidence would be confined to the open-pit area which has already been disturbed by mining.

The effects of subsidence and mitigating measures will be discussed in the EIS, and this discussion will consider the potential impacts of all the underground workings, not just the NJ-45.

4. Differences in the Status of the Overall Mine Complex

When the PW2-PW3 plan was approved, open-pit mining was still underway. Since that time, the price of uranium has dropped considerably, and Anaconda was forced to stop the open-pit operations sooner than it had planned.

This situation makes the NJ-45 Mine more important as far as the Laguna people are concerned. The Jackpile Mine has been in operation for 29 years, and the Pueblo of Laguna will soon have to deal with loss of royalty income and employment opportunities. Because of the depressed uranium market, the entire mine will be abandoned sooner than expected. The NJ-45 Mine would extend royalty income and reduce the impact of large-scale unemployment to a minor degree (approval of the proposal would not affect the number or viability of any alternative being addressed by the EIS being prepared on reclamation of the site).

5. Differences in EA Preparation

Since the PW2-PW3 Mine was approved, there have been changes in the way EAs are prepared. None of these changes invalidates the PW2-PW3 EA, the document being adopted. Changes in procedures require an assessment of the proposal's cumulative impact; a statement as to possible impacts on floodplains and wetlands; endangered species clearances; and a "Summary and Conclusion" section.

This adoption document will include those items not included in the PW2-PW3 EA.

B. Other Environmental Considerations

To comply with the revised EA guidelines and procedures, this section will present a brief discussion of those required elements not included in the PW2-PW3 EA.

1. Cumulative Impacts

The NJ-45 Mine would lie within the already disturbed Jackpile-Paguate Mine. The small size and short time frame of this project would make its impacts negligible, individually or cumulatively.

2. Floodplains and Wetlands

The Rio Paguate flows through the Jackpile-Paguate Mine, but the NJ-45 Mine would be about one mile northwest of this perennial stream. Accordingly, the proposed project does not lie in a floodplain or wetland as defined by Executive Orders 11988 and 11990.

3. Endangered Species

No Federally or State listed endangered or threatened species have been found in the Jackpile-Paguate Mine area (Appendix A).

IV. Alternatives

A. No Action or Disapproval

This alternative would eliminate the operational impacts of the proposed project, all of which are judged to be insignificant both individually and cumulatively. Since one purpose of this project is to reduce the loss of royalty income and employment, disapproval of the NJ-45 Mine would be counterproductive as far as the Laguna people are concerned.

B. Open-Pit Mining

Open-pit mining offers the advantage of nearly complete recovery of the ore reserve. However, present market conditions and increased operating costs have made open-pit mining in the NJ-45 area uneconomical. Open-pit mining would also cause more environmental impact although in this case that could be considered a moot point.

C. Approval of the Plan as Submitted

If the plan were to be approved as submitted, it would cause the impacts discussed in this EA and the adopted PW2-PW3 EA.

D. Approval of the Plan with Stipulations

The NJ-45 Mine is located within the Jackpile-Paguate Mine, and the reclamation of the entire mine is now the subject of an EIS. If the NJ-45 Mine is approved, it should be with the stipulation that all reclamation would be in accordance with the recommendations of the final EIS. If the NJ-45 Mine were reclaimed as recommended in the EIS, all environmental impacts would be mitigated to the greatest possible degree.

V. Unavoidable Adverse Effects

The proposed operations would cause a certain amount of dust, but this would not be a major impact and could be further minimized by using water. The mine's atmosphere would be contaminated by blasting fumes, radon gas, and exhaust gases, but the ventilation system and frequent monitoring by the appropriate regulatory agencies would maintain this contamination within acceptable limits.

Any noise created by the operations would be insignificant due to the absence of any nearby residences and the small amount of equipment involved.

The extraction of the NJ-45 ore deposits would require the withdrawal of a small amount (c 50gpm) of ground water from the Jackpile Sandstone aquifer. This would not significantly affect the availability of ground water in the area. In addition, ore extraction would result in radiological contamination of the ground water seeping into the mine workings during the productive life of the mine and, to a lesser degree, following the termination of all mining operations with minor potential for migration within the Jackpile Sandstone. During the mine's life, the mine water would be impounded in the sump or used for dust control on existing mine roads. No water from the mine would be discharged off the property.

VI. Comments and Responses

The only comments received on the NJ-45 Mine were letters of approval dated November 21, 1980, from the Southern Pueblos Agency, BIA and March 2, 1981, from the Pueblo of Laguna Council.

VII. Summary and Conclusions

The data and discussion contained in this EA and the adopted EA for the PW2-PW3 Mine indicate that approval of the proposed NJ-45 Mine would not cause any significant impacts on the quality of the human environment. This conclusion was reached by comparing the NJ-45 Mine

with the previously approved PW2-PW3 Mine. The NJ-45 Mine impacts would be no greater, and in some cases less than those of the PW2-PW3 Mine, a project that did not constitute a major Federal action significantly affecting the quality of the human environment in the sense of NEPA.

Summary of Impacts

Key
NI - No impact
NS - No significant impact

Parameter	Severity of Impact Level/Degree of Significance	EA Page and Paragraph Reference
1. Beneficial and/or adverse effects.	NS	page 7 - paragraph 5
2. Public health & safety.	NS	page 5 - paragraph 2,3,4 page 7 - paragraph 1,2,3
3. Unique characteristics of the geographical area.	NS	page 8 - paragraph 4,5
4. Effects highly controversial.	NS	page 10 - paragraph 4 Appendix A
5. Highly uncertain effects or unique or unknown risks.	NS	page 2 - paragraph 2,3 page 5 - paragraph 2,3,4 page 7 - paragraph 1,2,3
6. Establishs precedent for future actions or is a decision in principle about future action.	NS	page 2, paragraph 2

Summary of Impacts

Parameter	Severity of Impact Level/Degree of Significance	EA Page and Paragraph Reference
7. Assessment of cumulative actions and impacts thereof. Note 40 CFR 17.	NS	page 8 - paragraph 3
8. Effects on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural historical resources.	NI	page 5 - paragraph 4 Appendix A
9. Effects on endangered or threatened species or their habitat that have been determined to be critical under the Endangered Species Act of 1973.	NI	page 8 - paragraph 5 Appendix A
10. Threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.	NI	page 10 - paragraph 4
11. Other related NEPA and environmental documents (name).	Environmental Analysis PW2-PW3 Project The Anaconda Company April 29, 1977	

VIII. Determination

I determine that the proposed action, as modified by Alternative D on page 9, does not constitute a major Federal action significantly affecting the quality of human environment in the sense of NEPA, Section 102(2)9c).

APR 3 0 1981
Date

Dale C. Jones
District Mining Supervisor

I concur:

APR 3 0 1981
Date

James W. Sutherland for
Edward T. Sandell, Jr.
Deputy Conservation Manager-Mining

APPENDIX A

Clearances

Land Operations
330 EQ

FILE COPY

Surname

JAN 6 1976

Dames and Moore
Environmental Consultants
250 South Broadway
Salt Lake City, Utah 87403

Gentlemen:

Correspondence is enclosed regarding an archeological clearance survey of eight parcels of land in the Jackpile Mining Lease, Laguna Indian Reservation, Valencia County, New Mexico. The archeological survey was conducted by Mr. John Beal, Mr. Christopher Causey, and Ms. Jane Whitmore of the School of American Research on November 6,7,10, and 12, 1975.

All areas surveyed occur within the Jackpile or Number Four Mining Leases of the Laguna Indian Reservation (T.10N., R.5W., Sections 1,2,3,4,5,8,9, 10, and 16 and T.11N., R.5W., Sections 26,27,28,33,34,35, and 36). Areas surveyed occured in T.11N., R.5W., Sections 25,26,27,33,34,35 and T.10N., R.5W., Sections 3,4, and 5 (see map Nos. 1 and 2 of the enclosed report).

Both this office and Mr. Thomas Merlan, State Historic Preservation Officer, agree with the School of American Research in their recommendations for archeological clearance set forth on page 13 of the report. These recommendations follow:

Area	Recommendation
A1	It is recommended that archaeological clearance be granted provided all land altering activities near site A1-1 is avoided. Further, clearance from tribal officials should be gained before any of the historic sites documented are destroyed or altered. NJ-45 Site
A2	It is recommended that archaeological clearance be granted in area A2 provided tribal officials are contacted with respect to sites A2-1 and A2-2.
A3	It is recommended that archaeological clearance be granted for all of area A3.
A4	It is recommended that archaeological clearance be granted for all of area A4.
A5	It is recommended that archaeological clearance be granted for all of area A5.

A6 It is recommended that archaeological clearance be granted for all of area A6.

A7 It is recommended that archaeological clearance be granted for all of area A7.

A8 It is recommended that archaeological clearance be granted; provided, tribal officials are contacted with respect to sites A8-1, 2 and 3.

Archeological clearance for the above areas is granted with the above stipulation that: (1) archeological site A1-1 be avoided, and (2) that tribal officials are contacted regarding A2-1, A2-2, A8-1, A8-2, and A8-3. Formal assurance of the lessee's intent to comply with the stipulations of archeological clearance should be sent to both this office and Mr. Thomas W. Merlan, State Historic Preservation Officer, State Planning Office, 403 Executive Legislative Building, Santa Fe, New Mexico 87503. If you have any questions with regard to this matter, please contact Mr. William C. Allan, Area Archeologist, Branch of Land Operations, P.O. Box 8327, Albuquerque, New Mexico 87108, telephone (505) 766-3167.

Thank you for your consideration.

Sincerely yours,

/s/Patrick E. Wahlberg

ACTING ASSISTANT Area Director RESOURCE DEVELOPMENT & PROTECTION

Enclosures (4)

330____
005
Reading
360:WCALLAN/ccc 1/6/76

An Archaeological Clearance Survey of Eight Parcels of Land at the Anaconda Company's Jackpile-Paguate Uranium Mine Laguna Indian Reservation Valencia County, New Mexico

By

John D. Beal
School of American Research

January 6, 1976

DESCRIPTION OF SURVEY

On November 6, 7, 10, and 12, 1975, the School of American Research conducted archaeological clearance surveys of eight parcels of land at the Anaconda Company's Jackpile-Paguate Uranium Mine on the Laguna Indian Reservation, Valencia County, New Mexico. The survey was performed under Federal Antiquities Permit # 74 NM 063 and a permit from the Laguna Tribe covering only those lands within the mining lease. Dames and Moore, environmental consultants of Salt Lake City, Utah, requested that the School of American Research conduct the survey.

The areas surveyed are located within the Jackpile or Number Four Mining Leases of the Laguna Indian Reservation (T10N, R5W, Sections 1, 2, 3, 4, 5, 8, 9, 10, and 16; T11N, R5W, Sections 25, 26, 27, 33, 34, 35; and T10N, R5W, Sections 3, 4, and 5 as shown on the accompanying map). The proposed expansion of Anaconda's open pit and underground uranium mining operations will affect these areas.

Mr. William E. Gray of the Anaconda Company and Mr. John Beal of the School of American Research met at the Jackpile-Paguate Mine on November 3, 1975, for the purpose of defining the survey areas and obtaining clearance from mine personnel. Mr. Beal returned to the lease area on November 6, accompanied by Mr. Christopher Causey with whom he began an intensive survey of the designated areas. Ms. Jane Whitmore participated in the survey on November 12.

METHOD OF SURVEY

Each area was surveyed on foot in parallel linear transects with members of the survey team covering swaths of ground 50 feet in width (25 feet on either side of the line of passage). Crew members recorded signs of cultural activity, completed locational drawings of all site areas, made sketches of specific sites, and took complete sets of measurements. A small sample of ceramic materials (12 sherds) was collected at one site (Al-1). These materials, which were used in dating the site, will be returned to the Laguna Tribe. All prehistoric occupation sites were marked with yellow flagging tape, while historic occupation sites were left unmarked.

DESCRIPTION OF SURVEY AREA

The areas surveyed lie on either side of the Rio Paguate, a perennial stream joining the Rio San Jose four miles east of Laguna Pueblo. The topography of the area is "characterized by a succession of mesas and erosion valleys bounded by desert cliffs or long barren slopes: a type of landscape which results from arid climate erosion of horizontal rocks of diverse strength" (Dittert 1959; Fenneman 1931:318). The Jackpile-Paguate Mine lies eight miles due north of Laguna Pueblo where the Rio Moquino and the Arroyo Moquino merge with the Rio Paguate. These three watercourses drain a considerable portion of the Mount Taylor watershed which lies to the north and west. The Arroyo Moquino serves to drain the west side of Gavilan Mesa, the most prominent landmark in the immediate area.

The majority of the areas surveyed is marked by gently sloping, treeless, alluvial valleys which are cut by deeply entrenched arroyos and bordered by outcrops of caprock, components of the Mesaverde Formation. Only the westernmost parcel (#7) differed from this norm; there the foothills of Mount Taylor rise to a considerable height (7,400 feet) and concentrated growths of piñon and juniper provide cover over the exceedingly rocky soil.

Valley bottoms below the mesas are populated by various grasses and low shrubs. Isolated small junipers occur where the caprock ends or where micro-environmental conditions permit. Cacti and members of the yucca family are not abundant. In comparison, the steep hillsides and mesa tops are typified by growths of piñon-juniper, various grasses, fourwing saltbush, prickly pear, and mamilaria cactus.

Mining operations in the vicinity have caused considerable impact on the original topography. Open pit mining operations, ancillary roads, backfill dumps, and drill holes are by far the most dominant features in all areas.

ARCHAEOLOGICAL BACKGROUND

Neither the Laguna Indian Reservation nor the general Paguate area has ever been the subject of detailed archaeological investigation. While considerable work has been done to the south and west of the Laguna Reservation by A. E. Dittert (1949 and 1959), R. J. Ruppe (1953), and R. Wiseman (1974), their investigations deal with the Laguna area in a peripheral way. Some work has been done in the Paguate area, notably by Eastern New Mexico University under the direction of Cynthia

Irwin-Williams, and in the form of survey activities by Gerald Dawson; however, the results of their work have not been published. Despite the lack of data available, a brief profile of the area's prehistory can be made by synthesizing Dittert's, Ruppe's and Wiseman's observations together with the information gained from M. A. Beach in a personal communication. (Mr. Beach, who is presently at Grossmont College, El Cajon, California, participated in the activities of Eastern New Mexico University in the survey area.)

The earliest probable occupation in the area dates to the Cody Phase of the Paleoindian period. W. James Judge (1973) has documented a site of this horizon not more than 10 miles east of the Paguate area and north of the Rio San Jose. There is some evidence that materials of the Cochise culture have also been observed in the area (Beach pers. com.). In any event, it is probable that the area to the south and east of Paguate was the province of Paleoindian hunters and that increments of this population did enter and exploit the eastern foothills of Mount Taylor. The dates of these incursions may have ranged from 10,000 B.C. to 500 B.C. and to perhaps later. During the period 2500 B.C. to approximately 1 A.D., Archaic period hunters used the area. Their camps occurred on the benches and outcrops of the Mesaverde Formation below the high mesas (Beach pers. com.; Dittert 1959). Both the Paleoindian and Archaic occupations in the area are similar in their utilization of lithic tools and the location of their habitations above the valley floor. The high mesas were occupied by Basketmaker peoples, and documentation for White

Mound Phase Basketmaker III sites is well established by both Dittert and Ruppe in the district south of Laguna along the Malpais (Cebolleta Mesa Region).

Early pueblo settlements are documented (Dittert 1949, 1959; Ruppe 1953; Wiseman 1974) in the Cebolleta Mesa area south of Paguate as well as in the surrounding area. The occupational sequence for the Laguna area can be considered similar to that established by Dittert for the Cebolleta Mesa region as a whole (see Table 1).

Late Pueblo III settlement in the area was confirmed during the survey by the presence of black on white wares and White Mountain red wares (including Houck--an early polychrome) at a small site. Cubero Phase sites have been noted to the south of the survey area (Dittert 1959), and there is little doubt that similar sites exist in the more immediate vicinity. That the region was dominated both physically and economically by Acoma Pueblo was well documented by Coronado at the time of his entrance into New Mexico (Boulton 1971; Hammond and Rey 1940). In 1697/98, increments of population from the Rio Grande pueblos were resettled along the Rio San Jose east of its confluence with Acoma Creek where a small Acoman population was already living. In 1699, Governor Cubero visited the new settlement and named it San Jose de la Laguna. This was later shortened to Laguna or Laguna Pueblo in historic times.

Farming has figured prominently in Laguna's economic picture, and several small farming communities were established in favorable locations along the Rio San Jose and its tributaries. Paguate was one of these villages and is first documented as

Table 1

Prehistoric Occupation in the Cebolleta Mesa Region

Cultural Periods	Dates	Pecos Classification
Acoma Phase	1600-Present	Pueblo V
Cubero Phase	1400-1600	Pueblo IV (Late)
Kowina Phase	1200-1400	Pueblo III-Pueblo IV
Pilares Phase	1100-1200	Pueblo III
Cebolleta Phase	950-1100	Pueblo II
Red Mesa Phase	870-950	Early Pueblo II
Kiatuthlanna Phase	800-870	Pueblo I
White Mound Phase	700-800	Basketmaker III
---	---	---
Lobo Period San Jose Period	2500 B.C.-A.D. 700	Archaic
Cody Phase Cochise Phase	10,000 B.C.-2500 B.C.	Paleoindian

existent prior to 1849. The inhabitants of Laguna proved more receptive to animal husbandry, primarily sheep herding, than most pueblos of the day and, by 1754, were noted for their large herds. Herding continues to be the primary activity requiring land today although cattle have generally replaced sheep within the last 50 years.

ARCHAEOLOGICAL EVALUATION OF SURVEYED AREAS

The entire survey project was conducted with respect to eight specific survey areas, each of which will be dealt with individually in the following discussion.

Survey Area A1

An intensive survey of area A1 resulted in the delineation of 5 occupation sites, 4 of which are historic, apparently related to the husbandry of sheep, and one of which is a prehistoric pueblo site. An inspection of the sandstone bench above the pueblo site resulted in the discovery of an archaic lithic scatter. This site lies out of the survey area, but its presence does substantiate the geographic stratification of sites mentioned previously.

Site A1-1

This site occupies a low hummock of alluvial soil between the two arms of Gavilan Mesa which open to the northwest and the Arroyo Moquino. Several small junipers populate this rise and constitute the only trees in the area. Evidence of occupation extends for a distance of 100 meters along the crest of the hummock and consists of ceramic materials. Architectural indications of occupation (as shown on Site Plan 1) are: a single rectangular

rubble mound of masonry debris less than 3 meters square, a circular rubble mound 2 meters in diameter, 2 isolated fire hearths, and a possible pit structure.

The fact that the isolated hearths and possible pit structure are somewhat removed from the other site remains may indicate that the manifestation is multi-component in nature; i.e., pueblo and basketmaker. There were, however, no diagnostic basketmaker materials evident on the surface. The presence of Santa Fe, Socorro, and Esquevada painted wares in addition to Rouck Polychrome tends to indicate occupational dates from 1250 to 1350 A.D.

Site Al-2

This site is located approximately 65 meters north northeast of site Al-1 abutting the first bench of caprock above the valley floor. A small alcove or rincon is located directly to the east of the feature and is supposedly the result of entrenchment of a small drainage in this area. The manifestation consists of a rounded "L" shaped wall (semi-circular) of unaltered, simple sandstone masonry. This wall, in conjunction with the caprock forms an enclosure roughly 3 X 4 meters square; the wall ranges from .30 to .75 meters in height.

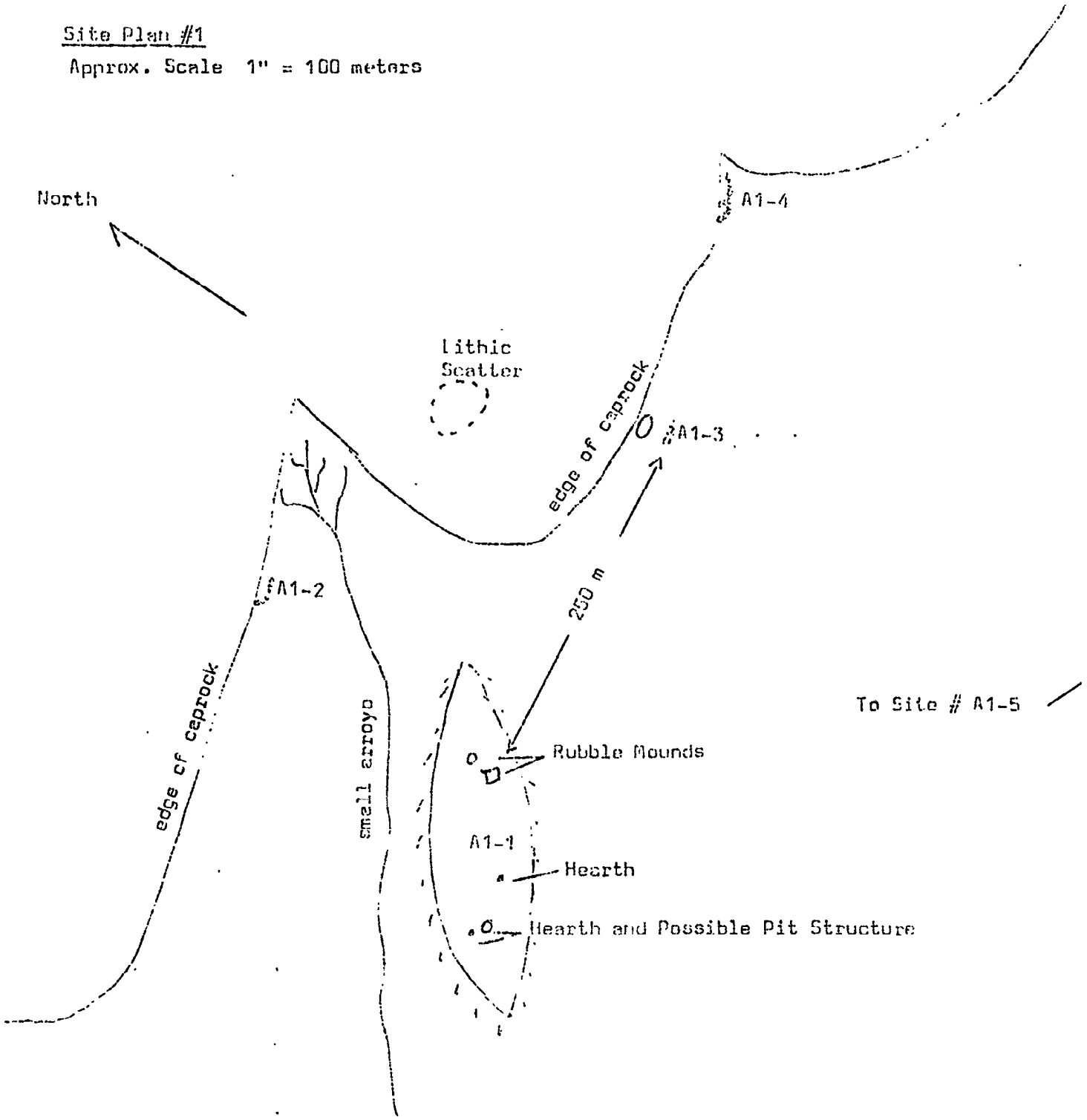
There is no indication that this feature is of prehistoric origin. Sheep dung and metallic trash around the site indicate that it is of historic manufacture and probably related to sheep herding activities in the area. Such a structure may well have served as a lambing pen or temporary herding shelter.

Site Al-3

Site Al-3 consists of a simple rock mound associated with

Site Plan #1

Approx. Scale 1" = 100 meters



isolated sandstone pillar along the rim of caprock 250 meters east of site Al-1. Unshaped sandstone slabs have been stacked in a single pile measuring roughly 2 meters in length, .75 meters in width and .60 meters in height. Although cultural material in the immediate area was nonexistent, the feature is believed to be of historic origin. The spatial relationship between the rock pile and the natural pillar may indicate that the rock pile is a marker of some type. Site Al-4 is located a short distance to the east in a small alcove, and some connection between the two is possible.

Site Al-4

A small alcove 50 meters to the east of Site Al-3 is the location of two concentric stone walls which are probably the remains of an historic shelter and a sheep pen. Both of these structures abut the first bench of caprock. The westernmost and smallest structure is composed of dry-laid coarse masonry which extends in an arc from northwest to southeast. At the northwestern extremity the stone wall abuts the cliff face and at the southeast end, abuts the west wall of a larger sheep pen. The smaller structure encompasses roughly 4 square meters of surface area, and the walls maintain a height of more than .50 meters. The larger structure (sheep pen) is constructed in similar fashion and of similar materials; however, it evidences signs of an entrance to the south (a breach in the wall) and encompasses 5 times as much surface area. The presence of sheep dung in the larger enclosure indicates that the features were used by shepherds running stock along the

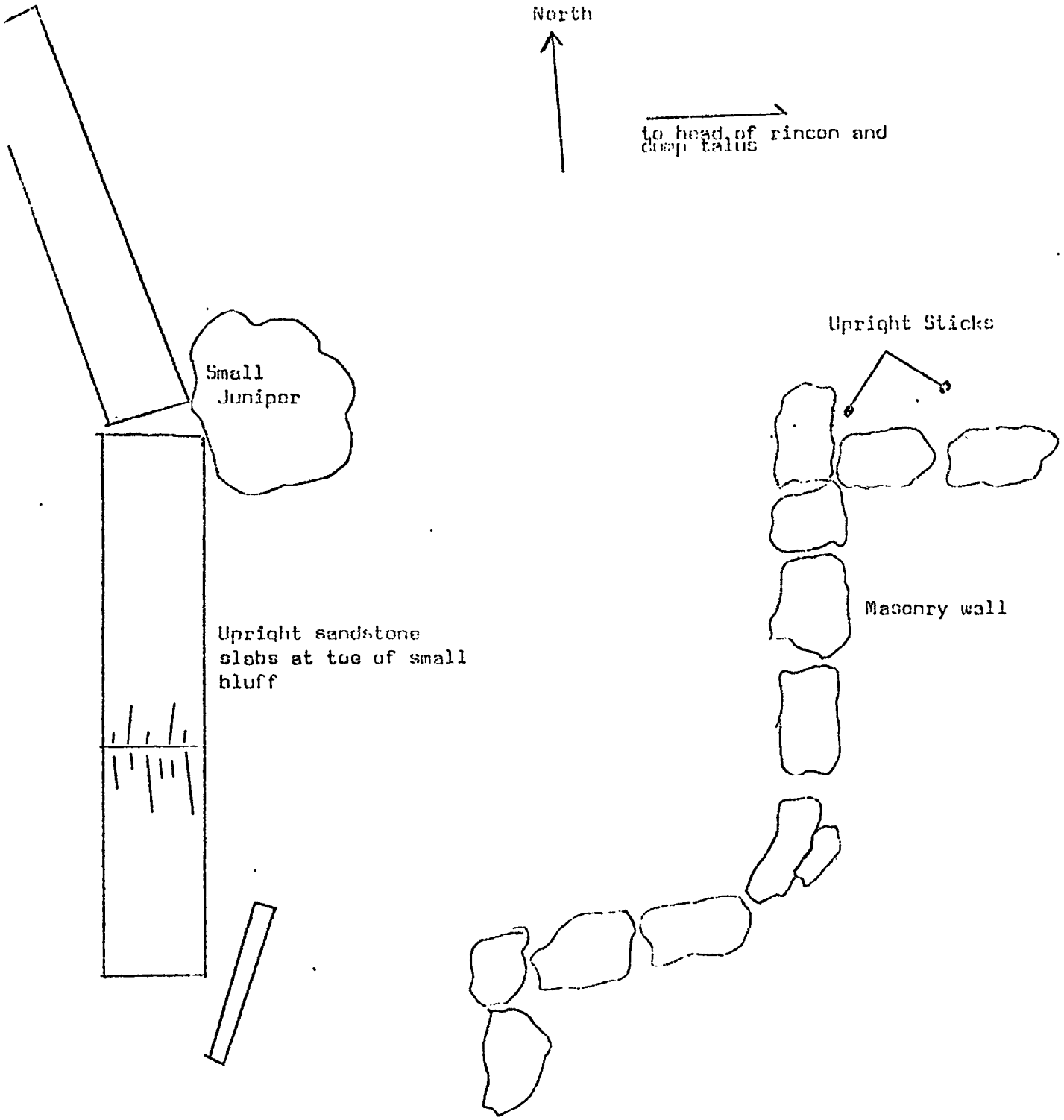
Arroyo Moquino. No metallic or glass materials were associated with the site.

Site A1-5

Site A1-5 is located 340 meters southeast of site A1-1 toward the head of the rincon and on the opposite side of the drainage. The site occurs at the toe of a small ridge which extends into the bottomlands. The site is bordered on the west by two large segments of sandstone slab marking the toe of the ridge and lodged in an upright or vertical position. Two meters to the east of these naturally erected stones is a rough "L" shaped wall of crude masonry without mortar. The alignment turns several 90 degree angles and is marked by two upright sticks embedded in the ground at the crux of the angles formed at its northern extremity. These sticks are of naturally peeled and weathered piñon pine, .03 meters in diameter and .35 meters in height above the ground. The wall itself ranges from .10 to .75 meters in height. The absence of any cultural material related to the site precludes any definitive assignment of cultural period; however, the similarity of construction to herding shelters and stock pens in the same area indicates historic origin. The structures' exact function and the significance of the two upright sticks at the north end of the structure are problematical.

Survey Area A2

The survey of area A2 resulted in the documentation of two sites, both of which appear to belong to the historic period of occupation. The first is a series of six masonry alignments forming walls and partial enclosures, which may be the remains of an abandoned sheep camp. The second consists of the remains



Site #A 1-5

Historic Herding Shelter or Wind Break

1 meter

2 meters

of a possible circular shrine or marker, evidently abandoned.

Site A2-1

Site A2-1 lies at the base of the first bench of caprock and consists of one "L" shaped windbreak or shelter on the south side of a small tributary drainage of the Arroyo Moquino, and three sections of masonry wall, a probable storage structure and a cairn on the north (as shown on site plan 2). Pertinent information for each of these structures is as follows:

Structure #1 Windbreak (temporary domicile?)

length of N-S wall	1.64 meters
length of E-W wall	1.74 meters
minimum wall height	.23 meters
maximum wall height	.85 meters
wall width	.35 meters
Construction:	Crude, coursed, simple masonry without mortar; vertical slabs at both ends of wall and at 90 degree juncture.

Structure #2 Sheep Pen

length of N-S wall	2.50 meters
length of E-W wall	9.0 meters
distance from edge of arroyo	1.50 meters
wall height	.10-.85 meters
Construction:	Crude, coursed, simple masonry without mortar; 90 degree abuttment near arroyo is indistinct (washed out).

Structure #3 Storage Bin

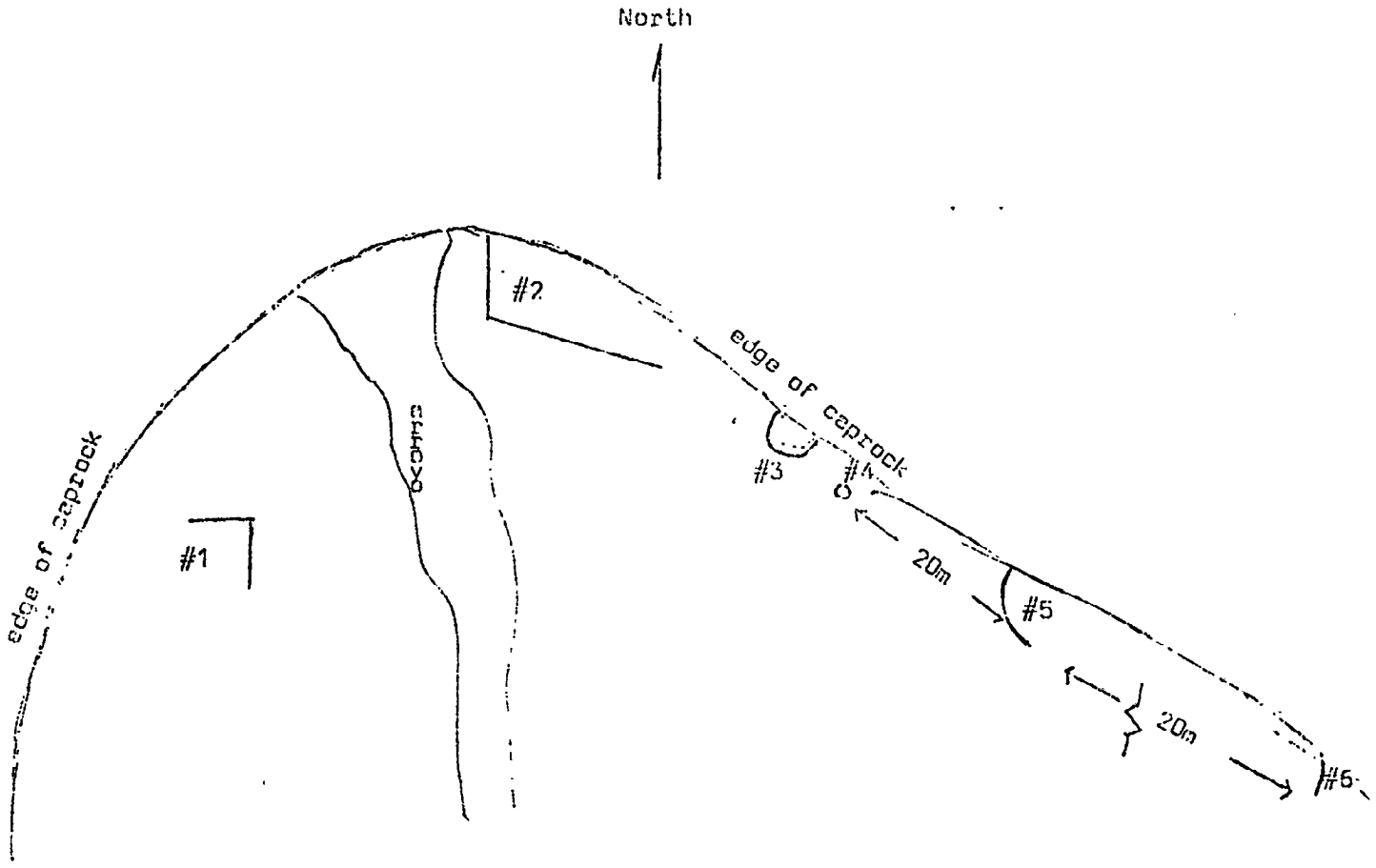
diameter N-W	1.70 meters
diameter E-W	1.05 meters
wall height	.25-.85 meters
Construction:	Located under a small overhang of caprock; crude, coursed, simple masonry without mortar; circular.

Structure #4 Cairn

height	.55 meters
width	.35 meters
Construction:	6 rocks piled on top of each other, general decrease in size.

Site Plan # 2

Site # A2-1
Approx. Scale: 1" = 5 meters



Structure #5 Windbreak or Lambing Pen

length of wall	2.25 meters
width of wall	.40 meters
height of wall	.48-.70 meters
Construction:	Crude, coursed, simple masonry without mortar; abuts the caprock and is open to the southeast.

Structure #6 Storage (destroyed?)

length of wall	1.60 meters
height of wall	1.05 meters
Construction:	Located in a small cleft in caprock; large stones laid in crude courses without mortar; 8 large rocks used in wall segment.

It is generally apparent that these structures form a single site by virtue of their similarities of construction and proximity. A conversation with Mr. E. P. Scarrecino of Paguate revealed that this general area was the scene of considerable herding in the 1920's and that some rather similar structures in the area were constructed then. It is probable that these structures relate to this period or before.

Site A2-2

This manifestation is located at the top of the caprock and 12 meters from its edge. It is also a short distance (40 meters) south of the Laguna Indian Reservation boundary. It consists of a semicircle of simple stone masonry 1.25 meters in length and from .12 to .48 meters in height. The feature is situated in such a way that the masonry wall functions as an extension of a circular depression in the surface of the caprock. When the depression and masonry wall are considered parts of the same entity, a circular area 1.80 meters in diameter is formed. No materials of cultural significance were observed in conjunction with the feature; however, no attempt to disturb the soil inside the feature was made. Judging from the location of the feature and its

form, it is probable that it served as either a shrine or marker.

Survey Area A3

No materials of archaeological or historical significance were documented for this area.

Survey Area A4

No materials of archaeological or historical significance were documented for this area.

Survey Area A5

No materials of archaeological or historical significance were documented for this area.

Survey Area A6

No materials of archaeological or historical significance were documented for this area.

Survey Area A7

No materials of archaeological or historical significance were documented for this area.

Survey Area A8

Three sites were located in this area, all of which were historic. The first (A8-1) appears to be a shrine area, while the second (A8-2) is an abandoned domicile. The third (A8-3) is a stock (goat) pen.

Site A8-1

This site is located on the east side of a small arroyo draining into Oak Canyon from the north and occupying a position in the center of the South Dump expansion. The site lies 20 meters southwest of the toe of the South Dump. A series of three stone cairns marks a pocket of deflation. Two additional stone cairns

are located to the north between the deflated area and the South Dump, and a single isolated cairn is located 25 meters to the southeast. The survey party was informed of the presence of a shrine in this general area, and it is assumed that this series of six cairns and the pocket of deflation is the one referred to. No cultural materials were associated with the immediate area of the cairns.

Site A8-2

Four hundred meters east of site A8-1 lies site A8-2 which consists of two mounds of masonry room rubble, a horno, a pile of wood chips, a small pocket of trash including chipped stone, glass and bottle caps and an iron stove. The presence of glass and metal tend to establish a recent date of occupation. The fact that no enclosures for stock are evident close to these ruins would tend to indicate that the features served primary domiciliary functions and were probably not related to temporary herding in the area; however, it is possible that site A8-3 is related to this site.

Site A8-3

Three hundred meters south of the east edge of the South Dump, along the edge of the caprock lies a single juniper branch and brush corral with metal watering trough. The corral is semicircular and situated to take advantage of the cliff face formed by the caprock. Dimensions are 15 X 8 meters, the back wall being formed by the cliff face. An entrance is located at the front of the corral (south southwest) and is 1.50 meters in width. The watering trough is located outside the enclosure and to the right of the entrance. Judging from the dung evident,

it is probable that the last occupants were goats.

RECOMMENDATIONS FOR CLEARANCE

The discovery of one prehistoric occupation site in the areas surveyed necessitates some action. The site has been directly impacted by the drilling of test holes in the vicinity and if further development of the area will result in additional surface alterations, mitigative steps will be necessary. Because this particular area is slated for underground mining,* it is possible that further damage can be avoided if all surface alterations are restricted. It is suggested that this alternative be considered. The immediate area now receives little traffic, and it is probable that if this trend can be continued, there will be little or no impact on the site.

The numerous historic sites in areas A-1, 2, and 8 are of no apparent archaeological significance; however, clearance from tribal officials should be gained before any are altered. This applies especially to those sites which may be shrined (sites A2-2 and A8-1), as they may have and continue to have considerable significance to the area's inhabitants. The following is a complete list of recommendations for clearance:

Area	Recommendation
A1	It is recommended that archaeological clearance be granted provided all land altering activities near site A1-1 are avoided. Further, clearance from tribal officials should be gained before any of the historic sites documented are destroyed or altered. NJ-45
A2	It is recommended that archaeological clearance be granted in area A2 provided tribal officials are contacted with respect to sites A2-1 and A2-2.

* Revised plans since this report was written propose open pit mining in this area.

Area	Recommendation
A3	It is recommended that archaeological clearance be granted for all of area A3.
A4	It is recommended that archaeological clearance be granted for all of area A4.
A5	It is recommended that archaeological clearance be granted for all of area A5.
A6	It is recommended that archaeological clearance be granted for all of area A6.
A7	It is recommended that archaeological clearance be granted for all of area A7.
A8	It is recommended that archaeological clearance be granted provided tribal officials are contacted with respect to sites A8-1, 2, and 3.

An Additional Note on Historic Sites

There may be some question as to whether some of the historic sites documented in the survey are of Navajo or Pueblo origin. No truly diagnostic materials were encountered which shed light on this point. Admittedly the masonry style of these structures is not even remotely similar to that observable in the town of Paguate or even in some of the outlying buildings. However, all corrals in the region appear to have been constructed in the same way (crude, simple, coursed masonry without mortar) no matter what their associations were with pueblo towns or other structures. While it is generally conceded that both Navajos and Pueblos utilized the area, there is considerable confusion as to who did what, where, and to whom such structures may be attributed (Littel and Graham).

Bibliography

Boulton, Herbert E.
1949 Coronado, Knight of Pueblos and Plains. University of New Mexico Press, Albuquerque, New Mexico.

Dittert, A. E.
1959 Culture Change in the Cebolleta Mesa Region, Central Western New Mexico. Unpublished Ph.D. Dissertation, University of Arizona.

Eggan, F.
1950 Social Organization of the Western Pueblos. University of Chicago Press, Chicago, Illinois.

Ellis, F. H.
1959 Southwestern Journal of Anthropology. Vol. 15, No. 4, Winter

Fenneman, N. M.
1931 Physiography of the Western States. McGraw-Hill, New York.

Hammond, G. P. and Rey, A.
1940 Narrative of the Coronado Expedition, 1540-1542. Coronado Cuarto Centenial Publications, 1540-1940, Vol. 2, Albuquerque

Judge, W. J.
1973 PaleoIndian Occupation of the Central Rio Grande Valley in New Mexico. University of New Mexico Press, Albuquerque, New Mexico.

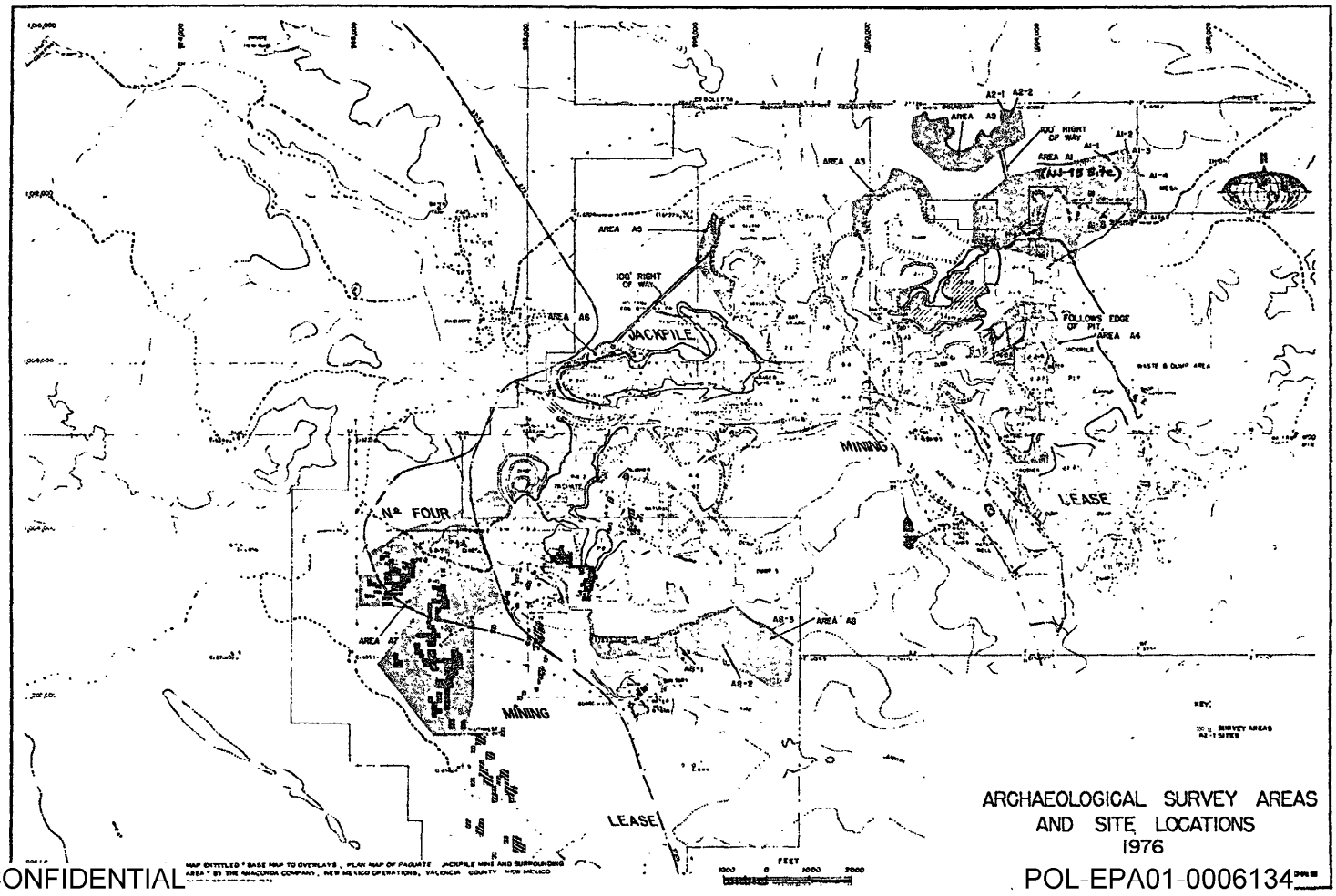
Littel & Graham
Records of Proposed Findings of Fact in Behalf of the Navajo Tribe of Indians in the Laguna-Acoma Overlap. Indian Claims Commission.

Northrop, S. A.
1942 Minerals of New Mexico. University of New Mexico Bulletin, Geological Series, Vol. 6, No. 1. Albuquerque, New Mexico

Ruppe, R. J. Jr.
1953 The Acoma Culture Province, An Archaeological Concept. Unpublished PH.D. Dissertation, Harvard University.

Wiseman, R.
1974 The Malpais Reconnaissance, An Archaeological Inventory and Evaluation of some Prehistoric Occupation sites in the El Malpais Planning Unit, Socorro District, Bureau of Land Management.

Wormington, H. M.
1959 Prehistoric Indians of the Southwest. The Denver Museum of Natural History, Denver, Colorado.



ARCHAEOLOGICAL SURVEY AREAS
AND SITE LOCATIONS
1976

IN REPLY REFER TO:
(OBS)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

POST OFFICE BOX 1306
ALBUQUERQUE, NEW MEXICO 87103

February 7, 1978

Memorandum

To: Environmental Scientist, Geological Survey, Albuquerque, New Mexico

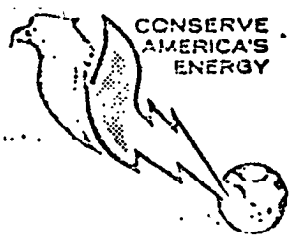
From: Acting Regional Director (OBS)

Subject: Endangered Species Clearance--Anaconda Company Jackpile--Paguate Uranium Mine and PW2-PW3 and P15/17 Mine Extensions

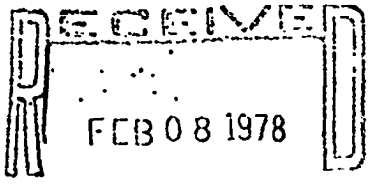
Responsive to your January 17, 1978, memorandum which enclosed a report on the prairie clover *(Petalostemum scariosum)* prepared by Mr. Ed Kelly of the University of New Mexico, we concur with the finding that no endangered or threatened plant or animal species will be affected by proposed mining activity.

R. F. Stephens

cc:
Field Supervisor, FWS, Ecological Services, Albuquerque, New Mexico
Endangered Species Coordinator, FWS, Albuquerque, New Mexico



Save Energy and You Serve America!



THE UNIVERSITY OF NEW MEXICO | ALBUQUERQUE, NEW MEXICO 87131

DEPARTMENT OF BIOLOGY
TELEPHONE 505: 277-3411

January 4, 1978

Dale Jones
U.S. Geological Survey
Conservation Division
Mine Operations
505 Marquette N.W.
Albuquerque, NM 87102

Dear Mr. Jones:

Enclosed is a copy of the report on the survey of Anaconda's Jackpile Mine area for Petalostemum scariosum.

If there are any questions concerning this report, please contact me at U.N.M; phone 277-3210.

Sincerely,

Ed Kelley

Ed Kelley
Research Assistant

Enclosure

dm

Survey of Anaconda's Jackpile Uranium Mine
for Petalostemum scariosum

Ed Kelley

Introduction

The Endangered Species Act of 1973 was signed into law on December 28. Among its provisions, the Act establishes two categories of species subject to Federal Protection: endangered species and threatened species. One of the major directives of this law was that the secretary of the Smithsonian Institution review the status of plant species which are now or may become endangered or threatened, and to devise methods for their conservation. A report to Congress was made the following year which included a list of endangered and threatened species. Of particular interest is list "A" which provides a state-by-state listing of endangered and threatened plant species. Among those taxa enumerated for New Mexico is Petalostemum scariosum (wats.) (Wemple). Subsequent research on the status of this species has indicated that it should be removed from the endangered and threatened species list (Wagner and Sabo, 1977).

Upon request of the U.S. Geological Survey and the U.S. Fish and Wildlife Service, this study was designed to determine if Petalostemum scariosum does actually or potentially exist within the boundaries of the Anaconda Jackpile uranium mining area.

Description and Location of Study Area

The Jackpile mining area described in this report covers about 3,000 acres on the Laguna Indian Reservation in Valencia County, New Mexico. The Rio Paguate, Rio Moquino, and Arroyo Moquino form the major drainage features of the mining area. Erosional remnants of cretaceous sandstones form mesas and buttes that border the alluvial-filled valleys of the drainage system. Cretaceous shales and Jurassic sandstone outcrops occur along the slopes of some of the mesas.

The mesas, buttes, and slopes support a blue grama-galleta (Bouteloua gracilis - Hilaria jamesii) grassland with pinyon (Pinus edulis) and juniper (Juniperus monosperma) occurring on the higher elevation sites. The shale and Jurassic sandstone outcrops support a low density population of broom snakeweek (Gutierrezia sarothrae), wild buckwheats (Eriogonum spp.) and three-awn grasses (Aristida spp.).

The alluvial valley floors support an alkali sacaton (Sporobolus airoides) grassland with scattered stands of four-wing saltbush (Atriplex canescens), shadscale (Atriplex confertifolia), and black greasewood (Sarcobatus vermiculatus). Willows (Salix spp.), salt cedar (Tamarix pentandra), sweetclovers (Melilotus spp.), horseweed (Erigeron canadensis), and wild rye (Elymus spp.) are the most abundant species in the dense vegetation of the riparian community along the Rio Paguate. The alkali soil along the Rio Moquino supports a sparse population of plants with alkali sacaton, willows, salt cedar and black greasewood being the most abundant species.

The overburden dumps and waste piles are generally devoid of vegetation. Those dumps that do support vegetation are dominated by four-wing saltbush, snakeweed, Russian thistle, and three-awn grasses. The reclaimed dumps and waste piles are dominated by species planted in the reclamation program. The first reclaimed site at the mine is about 17 months old and has been invaded by only 4 species not planted by Anaconda.

Methods

Surveys of the vegetation growing on the mesas, buttes, slopes, and valley floors have been conducted during the last two years. These surveys were conducted to evaluate the establishment and compare the growth of the vegetation on the reclaimed dumps to the natural vegetation of the different habitat types of the mining area (Reynolds et al. 1976, Kelley et al. 1977). These surveys have not identified any species of Petalostemum in the areas of the mine.

Because of these surveys, search efforts were concentrated to the riparian habitat along the Rio Paguate, Rio Moquino, and arroyos within the boundaries of the mine. Small areas on the mesas and slopes where wind blown sand has accumulated were also surveyed.

Results

A search of the suspect areas was performed during December, 1977. Petalostemum scariosum was not located during the survey. The survey identified the riparian area and the sandy terrace deposits along the Rio Paguate as the only suitable habitat for Petalostemum within the boundaries of the mine. Other species of Petalostemum (P. candidum willd., P. flavescens wats., and P. purpureum vent.) were collected from these sites along the Rio Paguate. These three species were also collected along State Road 279 between the Jackpile Mine and the Laguna pueblo during this survey. Petalostemum scariosum has been found along Interstate 40 near the Rio Puerco west of Albuquerque, New Mexico. Highway rights of way have

been identified as a preferred habitat for Petalostemum scariosum (R. Fletcher, U.S. Forest Service, Range Management Division, personal communication). Petalostemum scariosum has been collected on the Laguna Indian Reservation. These collections have been from the Rio Puerco Valley approximately 20 miles east of the Jackpile mine.

The results of the field survey, the literature review, and identification of previous collecting sites, indicate that the probability of Petalostemum scariosum occurring in the immediate vacinity of the Jackpile mine is very low.

Literature Cited

Wagner, Warren and David G. Sabo, 1977. Status Report on Petalostemum scariosum. Unpublished report to the U.S. Fish and Wildlife Service.

Reynolds, Jack F., Michael J. Cwik, and N. Ed Kelley. 1976. Reclamation at Anaconda's Open Pit Uranium Mine. Paper presented at the 1st Annual General Meeting of the Canadian Land Reclamation Association. University of Guelph, Ontario, Canada. 28 p.

Kelley, Ed, Jack F. Reynolds, and Loren D. Potter. 1977. Revegetation of Overburden, Anaconda's Open-Pit Uranium Mine. Unpublished report.

APPENDIX B

Pueblo of Laguna
and
BIA Concurrence

PUEBLO OF LAGUNA
P.O. BOX 194
LAGUNA, NEW MEXICO 87026

Office of:
The Governor
The Secretary
The Treasurer

(505) 243-3716
(505) 552-6651
(505) 552-6652

April 3, 1981

Mr. Dale Jones
U. S. Geological Survey
P. O. Box 69
Albuquerque, New Mexico 87103

Dear Mr. Jones:

Governor Early informed me that you (U. S. G. S.) had not received a formal letter/resolution indicating a decision by Council approving the proposed underground mining of sites identified as NJ-45, P-13 and P-15. We did converse and correspond with Anaconda on March 2, 1981, as per our letter dated same and we provided Marc Nelson with a copy of our correspondence. If you need something more, please advise.

Sincerely,

PUEBLO OF LAGUNA

Ron J. Solimon

Ron J. Solimon

RJS:afm

PUEBLO OF LAGUNA

P.O. BOX 194
LAGUNA, NEW MEXICO 87026

Office of:
The Governor
The Secretary
The Treasurer

(505) 243- 7616
(505) 552- 6654
(505) 552- 6655

March 2, 1981

Mr. Bob Lynn, General Manager
Anaconda Copper Company
Jackpile Operations
P. O. Box 638
Grants, New Mexico 87020

Re: Proposed Underground Mining of Sites identified as NJ-45, P-13 and P-15.

Dear Mr. Lynn:

This letter will confirm your telephone conversation with Mr. Ron Solimon on this day. The Council has decided to give its approval for the proposed future underground operations identified above. The village of Paguate specifically requested that you continue to repair the damages to homes due to blasting. I would like a response to this request as soon as possible.

I would like to thank you for your attendance at our Council meeting on February 23, 1981, and we look forward to continued cooperation.

Sincerely yours,

PUEBLO OF LAGUNA

Harry D. Early
Governor

HDE:ejm

cc: Marc Nelson, U.S.G.S.

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
SOUTHERN PUEBLOS AGENCY
P.O. BOX 1667
1000 INDIAN SCHOOL ROAD, N.W.
ALBUQUERQUE, NEW MEXICO 87103

IN REPLY REFER TO:
Real Property
Management

OCT 2 0 1980

Memorandum

To: U. S. Geological Survey
Attention: Dale C. Jones, Mining Engineer

From: Superintendent, Southern Pueblos Agency

Subject: Anaconda Copper Company's Proposed Mining Plans for the P-13 and NJ-45 Mines; Pueblo of Laguna Uranium Leases 1 and 4, Valencia County, New Mexico

Enclosed is a copy of a letter dated October 6, 1980 from the Area Director, Bureau of Indian Affairs concerning the proposed underground mining plans submitted by the Anaconda Company.

The Albuquerque Area Director has approved the plans as presented and recommends approval of both underground plans.

If we may be of further assistance in this matter, please let us know.

Samuel K. Montoya
Superintendent

Enclosure

IN REPLY REFER TO:

Real Estate Servic
Code 320

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
ALBUQUERQUE AREA OFFICE
P.O. BOX 8327
ALBUQUERQUE, NEW MEXICO 87108

OCT 6 1980

Memorandum

To: Superintendent, Southern Pueblos Agency
Attention: Omar Bradley, Realty Officer

From: Area Director

Subject: Anaconda Company's Proposed Underground Mining Plans for the P-13 and NJ-45 Mines; Pueblo of Laguna Uranium Leases 1 and 4, Valencia County, New Mexico

The Minerals Section of the Branch of Real Estate Services has reviewed the proposed underground mining plans submitted by the Anaconda Company.

The NJ-45 underground mine lies wholly within the limits of the Jackpile open pit and therefore, will not disturb new ground surface areas. The P-13 underground mine is an extension of the existing P-10 mine and the proposed adits will lie within the confines of the existing open pit. Adequate safeguards for the prevention of air and water pollution are planned or in place and ground surface subsidence monitoring stations are proposed for sections of State Road 279 overlying underground workings.

We foresee no problems with the plans as presented and therefore, recommend approval of both underground plans.

Deputy Area Director

APPENDIX C

Related Correspondence

P. O. Box 26124
Albuquerque, New Mexico 87125

September 4, 1980

CERTIFIED - RETURN RECEIPT REQUESTED

Ms. Lydia Chavez
County Clerk
Valencia County Courthouse
Los Lunas, New Mexico 87031

Dear Ms. Chavez:

Enclosed is a public notice of two mining plans recently received for approval. We suggest that this notice be posted in a prominent place for public viewing, and that local news media be advised.

Sincerely yours,

(ORIG. SGD.) DALE C. JONES
Dale C. Jones
Mining Engineer

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on

P20 1261538

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Lydia Chavez, Cnty., Clk.
Valencia Cnty Courthouse
Los Lunas, NM 87031

CERTIFIED FEE
SPECIAL DELIVERY
RESTRICTED DELIVERY
SHOW TO WHOM AND DATE DELIVERED
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY
RETURN RECEIPT SERVICE
OPTIONAL SERVICES
POSTAGE AND FEES
POSTMARK OR DATE
09-04-80

d (check one.)
ivered
dress of delivery
ivered
ddress of delivery
FOR FEES)
cia County
1
INSURED NO.
538
addressee or agent)
d above.
Authorized agent
POSTMARK
CLERK'S INITIALS
GPO : 1979

NEW MINING PLANS OR MAJOR MODIFICATIONS OF
EXISTING PLANS SUBMITTED FOR APPROVAL

Release Date September 8, 1980

Date	Lessee	Lease Number	Location	County	State
9-2-80	Anaconda Copper Co.	Laguna No. 1	Secs. 26 and 35, T. 11 N., R. 5 W., N.M.P.M.	Valencia	New Mexico
9-2-80	Anaconda Copper Co.	Laguna No. 4	Secs. 4 and 9, T. 10 N., R. 5 W., N.M.P.M.	Valencia	New Mexico

A copy of the plan may be reviewed at the office location given below. Pertinent comments are solicited from anyone affected by this proposal. Such comments should be filed within 30 days from the date of this release. Response timely filed will be considered in the preparation of the environmental analysis. Responses should be addressed to the Mining Supervisor at the following address:

Area Mining Supervisor
U. S. Geological Survey
Conservation Division
Western Bank Building
Room 1027
P. O. Box 26124
Albuquerque, New Mexico 87125

APPENDIX D

Adopted E.A.
(Under Separate Cover)

APPENDIX E

Mine Plan
(Under Separate Cover)

APPENDIX F

Proposed Stipulations

Proposed Stipulations

Abandonment and reclamation procedures for the NJ-45 Mine will be determined in the approval of the September 11, 1980, Reclamation Plan for the Jackpile-Paguate Uranium Mine.